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1: Plant Mol Biol 1996 Feb;30(3):647-53

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## Molecular cloning of a cDNA encoding diacylglycerol kinase (DGK) in *Arabidopsis thaliana*.

Katagiri T, Mizoguchi T, Shinozaki K.

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Diacylglycerol kinase (DGK) synthesizes phosphatidic acid from diacylglycerol, an activator of protein kinase C (PKC), to resynthesize phosphatidylinositols. The structure of DGK has not been characterized in plants. We report the cloning of a cDNA, cATDGK1, encoding DGK from *Arabidopsis thaliana*. The cATDGK1 CDNA contains an open reading frame of 2184 bp, and encodes a putative protein of 728 amino acids with a predicted molecular mass of 79.4 kDa. The deduced ATDGK1 amino acid sequence exhibits significant similarity to that of rat, pig, and *Drosophila* DGKs. The ATDGK1 mRNA was detected in roots, shoots, and leaves. Southern blot analysis suggests that the ATDGK1 gene is a single-copy gene. The existence of DGK as well as phospholipase C suggests the existence of PKC in plants.

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